WALKDOWN SCREENING AND SEISMIC EVALUATION TRAINING COURSE

SECTION II

TOUR OF THE GIP
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SQUG Walkdown Course Presentation Schedule

MONDAY

I. Introduction
   A. Course Outline
   B. History of USI A-46 and SQUG
   C. Description of Equip. Databases

II. Tour of the GIP

III. Seismic Capacity vs. Demand

IV. Anchorage

Equipment Categories
1. Batteries on Racks
2. Pumps
3. Chillers and Compressors
4. MCCs, Switchgear & Distribution Panels
5. Instrumentation and Control Panels
6. Transformers, Inverters, & Battery Chargers
7. Instruments on Racks
8. Air Handlers and Fans
9. Valves
10. Generators

VI. Case Studies
   A. Electrical (Switchgear)

TUESDAY

V. Equipment Categories
   A. Introduction
   B. Description of Categories 1, 2, 3, and 4
   C. Relay Screening and Evaluation
   D. Description of Categories 5, 6, and 7

VI. Seismic Interaction

VII. Case Studies
   C. Mechanical (Air Compressor) (Homework)

VI. Case Studies
   D. Electrical (I&C Panel)

WEDNESDAY

VII. Case Studies
   B. Electrical (I&C Panel)

VII. Case Studies
   C. Mechanical (Air Compressor) (Homework)

VIII. Implementation Topics

VIII. Implementation Topics

VIII. Implementation Topics

X. Site Visit

XI. Cable Trays and Conduit Raceways

XII. Cable Trays and Conduit Raceways

FRIDAY

V. Equipment Categories (Cont'd)
   B. Description of Categories 8, 9, and 10

VIII. Implementation Topics

VIII. Implementation Topics

X. Tanks and Heat Exchangers

XI. Cable Trays and Conduit Raceways

XII. Cable Trays and Conduit Raceways

1. OVERALL APPROACH

   SSEL

   Equipment Evaluation

   Summary Report

   Outlier Evaluation

   Completion Letter

   Relay Evaluation

   6

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Section II - Tour of the GIP
Prerequisites

From the previous modules, you should be familiar with:

- Background of the US I A-46 program
- Overall approach used by SQUG to address US I A-46
- Earthquake and testing experience database

References

- Generic Implementation Procedure
SECTION II

TOUR OF THE GIP

Objectives

- Identify Key Features of GIP
- Describe Important Relationships Between Guidelines in Various Sections of GIP
- Understand Topics Not Covered in This Course

Section II - Tour of the GIP
Overview

What Is The "GIP"?

- Guidelines and Criteria for Resolution of USI A-46
- Procedure for Performing Seismic Screening Evaluations of Equipment
- Scope Includes:
  - Mechanical and Electrical Equipment
  - Relays
  - Tanks and Heat Exchangers
  - Cable and Conduit Raceways

A-46/GIP Does Not Cover:

- Buildings
- Piping
- Passive Items of Equipment

Why GIP Developed?

- Vehicle to Obtain NRC Approval
- Define Detailed Evaluation Criteria Before Implementation Begins
- Provide Generic Approach Which Is:
  - Practical
  - Cost-Effective
Overview

Layout of GIP

- Part I - Licensing Topics
- Part II - Technical Procedures & Criteria
  - Sections (1 - 10)
    -- SQUG Commitments
    -- Implementation Guidance
  - Appendices (A - G)

Part II - Technical Procedures & Criteria

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Technical Procedures

2. Personnel
Responsibilities & Qualifications

- Seismic Capability Engineers
  - Systems Engineer
  - Plant Operations
  - Maintenance

Equipment Selection

- Systems Engineer
  - Plant Operations

Relay Review

Equipment Review

Third-Party Audit

Seismic Capability Engineers

- Experienced
- Degreed
- Trained
- Two or More Per Seismic Review Team
- PE on Each Seismic Review Team
Supplemental Information

The scope of equipment to be reviewed in USI A-46 was defined by the “Safe Shutdown Equipment List, (SSEL).” The SSEL was defined by the licensee based on safe shutdown requirements defined by the NRC. The SSEL could include non-safety equipment and could include non-Seismic Category I equipment.

After completion of USI A-46, licensees are not required to maintain the qualification status of SSEL equipment evaluated during USI A-46 (i.e., USI A-46 plants do not have to continue to demonstrate that SSEL equipment meets the GIP). For post USI A-46 applications, the GIP should be identified as an alternative to existing plant licensing bases for demonstrating seismic adequacy of Seismic Category I equipment.

See “Implementation Guidelines for Seismic Qualification of New and Replacement Equipment/Parts (NARE) Using the Generic Implementation Procedure” for further details.
Technical Procedures

3. Equipment Selection

Procedure:
1. Select Safe Shutdown Systems
2. Identify Items of Equipment For:
   - Equipment Review SSEL
   - Relay Review SSEL
3. Preliminary Walkdown
4. Operations Department Review

Equipment Covered By USI A-46

Equipment Covered By GIP
Supplemental Information

Outlier evaluation during USI A-46 allowed other reasonable methods to be used to justify the adequacy of existing installed SSEL equipment that did not completely meet GIP requirements.

When using the GIP for new and replacement equipment and parts being installed, the Outlier Evaluation methods are not applicable except as described in the NARE Guidelines for cable and raceway evaluations.
Supplemental Information

The documentation requirements described in Section 9 of the GIP apply only to use of the GIP for resolution of USI A-46.

See “Implementation Guidelines for Seismic Qualification of New and Replacement Equipment/Parts (NARE) Using Generic Implementation Procedure (GIP)” for guidance regarding documentation of GIP evaluations for NARE.

Note that the SER issued by the NRC regarding the plant-specific implementation includes NRC interpretations and clarification regarding application of the GIP to the particular plant. Prior to application of the GIP for NARE at a particular plant, the SER should be reviewed and any such specific requirements/clarifications should be factored into NARE evaluations.
Summary

- GIP is Controlling Document
- Seismic Capability Engineers
  Responsible for:
  - Reviewing Seismic Adequacy of
    Safe Shutdown Equipment
  - Assisting Electrical Engineers in
    Relay Review (Cap. vs. Demand)